IN THE CLAIMS:

Please delete claims 1-159 without prejudice or disclaimer to the subject matter claimed therein.

Please add new claims 160-201 as follows:

160. (New) A method of storing information in a biological molecule, comprising:

providing a substrate having defined therein an array of periodically-spaced regions capable of defining a writable segment in a nucleic acid molecule at one or more locations where said periodically spaced regions contact said nucleic acid molecule;

providing at least one double stranded nucleic acid molecule on said substrate thereby defining a plurality of said writable segments in said nucleic acid molecule at one or more locations where said periodically spaced regions are in contact with said nucleic acid molecule;

denaturing at least one of said writable segments by heating at least one of said writable segments; and

attaching at least one insertion compound to at least one nucleotide in said at least one writable segment

wherein said information is defined by the presence or absence of said insertion compound.

161. (New) The method of claim 160, wherein the at least one insertion compound is attached to said at least one nucleotide.

162. (New) The method of claim 160, wherein said at least one insertion compound includes an attachment portion and a detection portion.

163. (New) The method of claim 162, wherein said detection portion comprises a luminous dye.

164. (New) The method of claim 160, wherein said heating is accomplished by passing electrical current through a metal element arranged in or on the substrate.

165. (New) The method of claim 164, wherein said metal element is a resistive heating element.

166. (New) The method of claim 164, wherein said electrical current is applied in about 100 nanosecond pulses.

167. (New) A means for storing information in a biological molecule, comprising:

a substrate having defined therein an array of periodically-spaced regions capable of defining a writable segment in a nucleic acid molecule at one or more locations where said periodically spaced regions contact said nucleic acid molecule;

at least one double stranded nucleic acid molecule molecule on said substrate thereby defining a plurality of said writable segments in said nucleic acid molecule at one or more locations where said periodically spaced regions are in contact with said nucleic acid molecule;

a means for denaturing at least one of said writable segments by heating at least one of said writable segments; and

at least one insertion compound to at least one nucleotide in said at least one writable segment

wherein information stored in said information is defined by the presence or absence of said insertion compound.

168. (New) A device for storing information in a biological molecule comprising:

a substrate having defined therein an array of periodically spaced regions capable of defining a writable segment in a nucleic acid molecule at one or more locations where said periodically spaced regions contact said nucleic acid molecule;

at least one double stranded nucleic acid molecule on said substrate thereby defining a plurality of said writable segments in said nucleic acid molecule at one or more locations where said periodically spaced regions are in contact with said nucleic acid molecule;

wherein information is written to said writable segments by denaturing at least one of said writable segments; and

wherein at least one insertion compound is attached to at least one nucleotide in said at least one writable segment.

169. (New) The device of claim 168, wherein said information is defined by the presence or absence of said insertion compound.

170. (New) The device of claim 168, wherein said at least one insertion compound is attached to at least one nucleotide.

171. (New) The device of claim 168, wherein said at least one insertion compound includes an attachment portion and a detection portion.

172. (New) The device of claim 171, wherein said detection portion comprises a luminous dye.

173. (New) The device of claim 168, wherein denaturation is accomplished by passing electrical current though a metal element arranged in or on the substrate.

174. (New) The device of claim 169, wherein said denaturation is accomplished by contacting said nucleic acid molecule with a solution capable of denaturing a nucleic acid molecule.

175. (New) The device of claim 174, wherein the solution is aqueous.

176. (New) The device of claim 174, wherein the solution comprises guanidinium hydrochloride.

177. (New) The device of claim 174, wherein the solution comprises urea.

178. (New) The device of claim 168, wherein said periodically spaced regions have different wetting properties.

179. (New) The device of claim 178, wherein said periodically spaced regions are organized as a plurality of lines.

180. (New) The device of claim 179, wherein the lines comprise a first type having a first wetting property and a second type having a second wetting property.

181. (New) The device of claim 180, wherein the lines of the first type have a first width, and the lines of the second type have a second width.

182. (New) The device of claim 181, wherein the first width is about 10 nanometers to about 1000 nanometers.

183. (New) The device of claim 181, wherein the second width is about 10 nanometers to about 10000 nanometers.

184. (New) The device of claim 178, wherein a portion of said periodically spaced regions retain at least a portion of said nucleic acid molecule.

185. (New) The device of claim 168, wherein said periodically spaced regions include channels.

186. (New) The device of claim 185, wherein said channels are all of the same depth.

187. (New) The device of claim 186, wherein said depth is about 10 nanometers to about 500 nanometers.

188. (New) The device of claim 185, wherein said channels are all of the same width.

189. (New) The device of claim 188, wherein said width is about 10 nanometers to about 10000 nanometers.

190. (New) The device of claim 185, wherein said channels are separated by a distance of about 10 nanometers to about 1000 nanometers.

191. (New) The device of claim 185, wherein said channels have openings having a minimum width of about 10 nanometers to about 10000 nanometers.

192. (New) The device of claim 179, wherein all lines are parallel.

193. (New) The device of claim 168, wherein the substrate includes at least one semiconductor material.

194. (New) The device of claim 193, wherein the substrate is a silicon wafer.

195. (New) The device of claim 193, wherein the substrate is a <100>, n-doped silicon wafer.

196. (New) The device of claim 168, wherein said periodically spaced regions comprise at least one metal arranged on the surface of said regions.

197. (New) The device of claim 196, wherein said metal is gold.

198. (New) The device of claim 196, wherein said metal is a resistive heating element.

199. (New) The device of claim 185, further comprising a portion of a dielectric material overhanging openings to the channels.

200. (New) The device of claim 199, wherein said dielectric material is SiO_2 or Si_3N_4.